





yet I have little doubt but that they are exactly similar, the only difference being that Mr. Critchett always passes the needles in and out through the sclerotic, while Sir W. Wilde passes them, whenever it is possible, in and out through the small circular band of true cornea that is generally found in these cases."

DR. DEBOUT : ON ARTIFICIAL EYES (*Dublin Quarterly Journal of Medical Science*, vol. xxxvi. p. 67).—The author states that it is quite unnecessary to reduce the size of the eye before adapting the shell ; "on the contrary, the less the globe of the eye is diminished in volume, the less the eyelids droop, and the more the region of the eye preserves its normal projection." It is indeed of importance to preserve, as much as possible, the volume of the lost eye ; the pressure of the shell is diffused over a greater extent of surface, and better borne ; granulations seldom form ; the artificial eye is more mobile, and the appearance more natural. Great care must, however, be used in fitting the shell when the stump is large. Sometimes the artificial eye is very useful as a means of protection ; for example, a lady lost her right eye from ophthalmia in 1848 ; vision was completely destroyed, yet the stump continued so sensitive to wind, cold, or damp, that, notwithstanding the use of very dark blue spectacles, she was obliged to remain in her room. All the means employed were of no avail, and she believed herself the victim of an incurable disease. At last, after a seclusion of eight years in almost complete darkness, she came to Paris for advice. M. Boissonneau adapted a shell which immediately removed the unpleasant symptoms. She has now worn an artificial eye for seven years, and has returned to her former habits. She can walk out in all weathers, and go into society ; neither the inclemency of the weather nor the glare of the light has any injurious effect upon her.

A number of cases are related to show that it is unnecessary to destroy adhesions between the lid and the globe ; all that is required is that the artificial eye be furnished with indentations corresponding to the cicatricial bands. The author also proves, by the narration of cases, that an artificial eye can be adapted not only where the globe has been enucleated, but even where all the soft parts have been removed from the orbit. Thus, in a young man whose eye had been extirpated for cancer, M. Boissonneau adapted an artificial eye with such success that the patient can wear it without inconvenience from morning to night, and can move it from side to side.

He concludes with an account of two cases in which not only artificial eyes, but also artificial eyelids, were applied.

J. WILLIAMS : CASE OF SERIOUS INJURY OF THE EYE, RECOVERY OF NEARLY PERFECT VISION (*Dub. Quart. Journ. of Med. Science*, vol. xxxviii. p. 250).—Michael Haines, aged 46, sustained a severe injury of the right eye in December 1861, from a fall on the handle of an iron plough. High inflammation ensued; when, after some days, he could open the eye, he found he was perfectly blind, and some weeks elapsed before he “could discern day from night.” Gradually the vision improved, but “for a long time everything he looked at appeared red,” and he was unable to distinguish the natural colour of objects.

May 22nd, 1863.—The eyeball is misshapen, but full and elastic to the touch; the cornea is clear, save where it presents two whitish lines, which do not interfere with vision; no iris can be seen; at the inferior part of the eye, towards the inner angle, and about three lines from the cornea, there is a fistulous opening in the sclerotic, through which protrudes a piece of vitreous humour, about the size of a pin's head. There is an external strabismus of this eye. A lighted candle held before the eye causes but one erect image. He can see with this eye, without the aid of a lens, a single hair, pin, or other small object, and also the smoke issuing from a chimney 500 yards away. He is not dazzled by the brightest sunlight, and can use the eye with the same facility as if the iris were present.

M. PETER : ON EXOPHTHALMIC GOITRE (*Gaz. Hebd.*, 1864, p. 180).—After mentioning that Basedow and Teissier have noticed increased temperature of the body in cases of this affection, the author quotes, as an example, a patient of Trousseau's, in whom the pulse is habitually 120, and the skin always hot and dry. During an exacerbation, the pulse rapidly mounts to 140 or 150, and the sensation of heat becomes intolerable. M. Trousseau found in this case a symptom not previously noticed—it is what is termed a cerebral spot (*tache cérébrale*), *i. e.*, when the epidermis is slightly irritated, a beautiful red spot appears within two seconds, and lasts for about a minute. There appears to be an asthenic condition of the vaso-motor nerves, owing to which the slightest irritation causes rapid dilatation of the capillaries, just as occurs in some cases of fever. The author thinks the three phenomena, quickness of pulse, increased heat, and cerebral spot, are of the same kind, depending on a serious lesion of the vaso-motor nerves.

The author then gives an account of an interesting case, from which we extract the following :—A woman, *æt.* 60, was admitted



into the Hôtel-Dieu on the 3rd July, 1863, with exophthalmus. In 1856 she was deeply grieved by the loss of her father. In a single night, passed in weeping, she felt her eyes swell, the thyroid gland enlarge and beat, and the heart violently palpitate: during the same night she had a very severe epistaxis; four days later she consulted M. Desmarres. A year later she went to Africa, where she was attacked by intermittent fever; for this she was admitted into hospital, and whilst there the goître disappeared. Some time after the commencement of the exophthalmus, she suffered for more than a year from extraordinary hunger, so that she was obliged to eat almost every second hour; at the same time there was a tolerably severe diarrhœa. She was menstruating when the disease commenced; the catamenia stopped on the same night, and have not again appeared. In January 1863 there was an attack of angina pectoris. On her admittance there was considerable exophthalmus; the free border of the lower lid, instead of forming a tangent to the cornea, was more than four millimetres from it; the upper lid, which usually covers a portion of the cornea, was more than two millimetres from it. She was presbyopic, using convex glasses in reading or sewing; she could not bear a strong light. The heart beat forcibly; it measured 13 centimetres longitudinally, and 12 centimetres transversely; there was no souffle either at the base or apex, nor was there one in the vessels of the neck: the pulse was 96. There was no goître.

On the 9th December she had an apopleetic attack, which ended in death after twenty-four hours.

*Post-mortem Examination.*—A large extravasation in the left hemisphere, near the corpus striatum and thalamus opticus; a very small one in the pons. Heart very large; wall of the left ventricle especially thickened. Free edges of the mitral valve thickened, but no insufficiency or contraction; aortic valves a little rough along their free borders, but no insufficiency. Calcareous and atheromatous deposits in the aorta. No appreciable change in the vessels at the base of the brain; the capillaries around the extravasation showed no disease on microscopical examination. Spleen large; capsule not thickened, tissue firm, Malpighian bodies hypertrophied. Cirrhosis of the liver; fibrous capsule thickened, &c. In the kidneys, traces of interstitial nephritis. Thyroid small; the lobes hard, having a lobular appearance, owing to the retraction of their fibrous tissue; arteries small, presenting no sign of disease. The eyes pressed out of the orbits by cellular and fatty tissue, which almost entirely fills the orbital cavities; it is a little redder than usual. The ophthalmic

artery appears normal. The globes present no change. The bones of the skull extremely vascular, and more than double their ordinary thickness. Upper and middle cervical ganglia normal; inferior increased in size and reddened; on microscopical examination, increase of the connective, and diminution of the nervous elements. No decided change of the cardiac plexus.

The author remarks, that congestion alone could account for the sudden appearance of the symptoms in this case, a supposition confirmed by the epistaxis. He then points out that continued congestion may induce hæmorrhage, serous discharges, inflammation, or hypertrophy, and, by secondary contraction of hypertrophied fibrous tissue, cirrhosis. All these results were present in this case, repeated bleeding from the nose and diarrhœa, atrophy from cirrhosis of the thyroid gland, commencing cirrhosis of the liver, hypertrophy of the heart, hypertrophy with hyperæmia of the orbital cellular tissue, hypertrophy of the cranial bones. According to him, this case justifies us in believing that the various functional derangements present in exophthalmic goître depend on temporary congestion or organic disease of the sympathetic system; either of these conditions becoming the cause of temporary congestion or permanent lesion in different organs, as already explained.

R. LIEBREICH: ON THE SIMULATION OF AMAUROSIS (*Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques*, i. 787).—It is exceedingly rare for individuals with normal sight to pretend that both eyes are blind. Such an occurrence has, however, been noted, as a psychological aberration, in females about the period of puberty. The normal action of the pupils, and the absence of ophthalmoscopic symptoms, are the principal foundations of the diagnosis.

It more often happens that patients who suffer already from advanced amblyopia, assert that they cannot see light with either eye; unable to follow an occupation, they endeavour by this means to gain assistance, &c. It is only after great experience that the surgeon can determine whether certain changes in the choroid, retina, or optic nerve, found by the ophthalmoscope, are sufficient to account for loss of quantitative vision. Suspicion must arise when a patient asserts that he cannot perceive light, though the pupils act readily, enlarging or contracting according to the different degrees of illumination. No full decision can be come to when a patient asserts that he perceives light but not objects.

Simulated amaurosis of a single, and especially of the right eye, is very common, with the view of escaping the conscription. The

individuals are usually well prepared to play their part, and have not unfrequently dilated the pupil by belladonna. Such a state of the iris will often assist the surgeon in detecting imposition, for the pupil is then far larger than in amaurosis. Belladonna not only paralyses the filaments of the third nerve passing to the sphincter, but stimulates the sympathetic fibres distributed to the dilatator pupillæ. In natural mydriasis, the sphincter alone is paralysed ; in amaurosis the muscles of the iris possess their ordinary power ; there is no reflex contraction from irritation of the retina ; but in every other respect the iris acts in a normal manner. This is the most characteristic sign of monocular amaurosis. It must be remembered that the pupil contracts :—

1. Owing to the action of light on the same eye.
2.       "       "       "       other eye.
3. During accommodation for near objects.
4.       "       contraction of the internal rectus.

Much information may be gained by testing the size of the pupil under these different conditions. In practice the other eye should be closed ; the eye to be examined should be held in one position, and alternately shaded and exposed to the light. If, then, the pupil is motionless, whilst it changes in size when the other eye is alternately shaded and exposed, and contracts when the other eye fixes a near object, there can be no doubt that one eye is completely amaurotic. If the iris is motionless under all the conditions mentioned, there is either natural or artificial paralysis. If it moves according to the amount of light, when the other eye is closed, the eye is not perfectly blind, although there may be possibly entire loss of qualitative perception. To decide the latter question, the patient should be induced to believe that the examination of the one eye is finished, and that of the other is commencing ; a prism, with its base upwards or downwards, is then placed before the sound eye, both eyes being open. The image is single if the first eye is really amaurotic ; but if the blindness is simulated, the patient sees two objects. By testing in this way the power of vision, the surgeon may determine whether the other eye is weak-sighted, and to what degree.

G. FISCHER : TRAUMATIC SUPRAORBITAL NEURALGIA ; RETINAL IRRITATION ; INFRAORBITAL NEURALGIA ; CURE BY OPERATION (*Arch. für klin. Chir.*, v. 335).—The right side of the forehead, in a man of 45, was wounded by a blow with a stick. Whilst the wound was healing, he noticed a glittering before the right eye, and that he saw bright sparks and dark spots ; photophobia and headache also



supervened. When seen 14 days after the injury, it was found that the external appearance of the eyes was normal; the pupils acted well; the vision was good (Jäger No. 2). Ophthalmoscopic examination of the right eye was painful; the fundus and media were quite normal in both eyes. A little round scar was seen  $\frac{1}{4}$ " directly above the right foramen supraorbitale; the skin was there somewhat reddened and adhered to the bone; pressure caused violent pain. He complained of constant pains radiating over the whole right side of the head; he slept badly. The treatment consisted of leeches to the temple, laxatives, protection of the eyes from strong light, and the daily application of morphia endermically: the eyes became better, but the pains continued. On the 11th day the patient complained of infraorbital neuralgia on the right side of the face; pain on pressure over the for. infraorb. or against the gums; difficulty in chewing. Morphia was applied for four days to the gums without success. The scar was therefore included in two elliptical incisions and excised; union took place by the first intention, and in six days all the pains, except that excited by pressure over the supraorbital foramen, had disappeared. He remained under observation for six months, during which time he never presented any trace of neuralgia.

The complication of wounds of the supraorbital region with weak sight, or amaurosis, already mentioned by Hippocrates, Valsalva, Vicq d'Azyr, Morgagni, has recently excited much discussion. Whilst Chelius cured a blindness that came on eight days after such an injury, by means of leeches, mercurial ointment, and blisters, and Hennen successfully treated a similar case by division of the cicatrix, Ph. v. Walther denied that there was any connection between the blindness and injury. Pilz admits an accidental complication with concussion or separation of the retina; he explains in the same way the amaurosis accompanying infraorbital injuries. Malgaigne supposed that the concussion might be transmitted through the roof of the orbit to the optic nerve; in addition to which explanation, Hyrtl adduces the influence of the fifth nerve over the nutrition of the eye. In the present case, the subjective luminous appearances, the absence of organic lesions in the interior of the eye, the pain excited by ophthalmoscopic examination, sufficiently characterize the irritation of the retina. The author thinks it more rational to attribute this morbid state to the injury than to the neuralgia.

It is of interest to note that the radiating infraorbital pains disappeared immediately after excision of the cicatrix, whilst the supra-



orbital still persisted. In a case caused by cold, Schuh (*Ueber Gesichtsnuralgien*, &c., Wien, 1858) excised a portion within the orbit of the supraorbital nerve, which had probably been first and principally diseased: there were still pains along both nerves two days after the operation. Schuh attributes these pains to the wound of the nerve, and considers them to be similar to those after amputation, &c. In a second of Schuh's cases, many branches of the fifth were affected; the pains almost entirely ceased in a few days after resection of the infraorbital nerve. Resection of the supraorbital nerve within the orbit is unnecessary when the neuralgia depends on a frontal cicatrix; in all other cases it affords, according to Schuh, greater probability of success.

DR. STEFFAN: CASE OF MEDULLARY CANCER OF THE CORNEA (*Klin. Monatsbl. für Augenh.*, 1864, p. 81).—Heinrich F., 52 years old, applied in April, 1862, on account of a tumour of his left eye. The lower and outer quadrant of the cornea was covered by a brownish mass, which also extended a little over the sclera. The surface of the tumour was irregular, and its tissue felt soft. It projected about a line beyond the level of the cornea, and was immovable: some large vessels ran to it in the conjunctiva. The patient had noticed it at least half a year previously as a little elevation; it had given him no trouble.

He did not make his appearance again till the autumn, by which time the swelling projected 3 to 4 lines from the surface of the cornea, and pressed the lower lid from the globe. In other respects the appearance of the tumour had not altered. As to the diagnosis, the decision was between the fibrous, so-called dermoid tumour which is formed of connective tissue, and cancer. The former swellings, sometimes with, sometimes without hairs, are placed at the edge of the cornea, are "congenital," and do not afterwards noticeably enlarge. The author had occasion to remove such a tumour from a child, two years old, during the summer of 1862, and can confirm the remarks of von Graefe (*Arch. f. Ophth.*, vii. 2, p. 3): careful excision on a level with the surface of the cornea is without danger, the wound heals readily, and there is only left a little white cicatrix, continuous with the limbus conjunctivæ. It is evident that in F.'s case the tumour was not of this kind. There was every probability that it was a cancer, and this view was favoured by the rapid growth and vascularity of the swelling.

During the operation the tumour was found to be intimately connected with the subjacent tissue only at the margin of the cornea;

elsewhere it did not extend deeper than the epithelial layer. The wound healed rapidly, and the conjunctival injection disappeared: there has been hitherto no recurrence. Microscopical examination showed that it consisted of a cellular mass, with hardly any stroma; the cells were generally roundish, varied in size, and each contained one or two glittering nuclei; where they were isolated, they swam in a finely granular mass; no pigment could be perceived in them. The author could find no trace of the well-known structure of epithelial cancer. He therefore concludes that the disease was medullary cancer, commencing at the junction of the cornea and sclera.

C. ROSSANDER: ON CATARACT OPERATIONS (*Med. Arch. of Stockholm; Klin. Monatsbl. für Augenh.*, 1864, p. 118).—The results of extraction at the Great Seraphim Hospital have been by no means satisfactory; indeed, scarcely 54 per cent. were successful. During the last ten years extraction was performed 168 times at this hospital: in 90 of these cases the result was good, in 20 it was tolerable, in 58 unsuccessful (that is, in upwards of a third). Seventy-seven patients were men and 91 women. As to their ages, there were between—

10 and 20 years	.	.	.	2
20 „ 30 „	.	.	.	11
30 „ 40 „	.	.	.	14
40 „ 50 „	.	.	.	13
50 „ 60 „	.	.	.	37
60 „ 70 „	.	.	.	71
Over 70	.	.	.	20

Cataract appears to be far less common in Sweden than in Germany, England, or Switzerland. Rossander calculates that in the whole of Sweden, out of a population of four millions, 45 to 50 cataracts are submitted each year to operation.

The author is much in favour of iridectomy as a preparatory step to extraction; he follows the method of Mooren, extracting two to four weeks after the operation for artificial pupil. Out of seven cases treated in this way, the result was in 5 excellent, in 1 moderate, and in 1 the globe suppurated.

In respect to linear extraction and its modified forms, the author holds the same views as von Gräfe. Ordinary linear extraction was performed eight times during the last ten years at the Seraphim Hospital; the result was thrice very good, twice moderate, and thrice bad. Linear extraction with iridectomy was twice used; the

result was once good and once bad. The author speaks very unfavourably of Schuft's method.

After discussing the various operations in use, Rossander proposes a new mode, which he calls a *modified flap-extraction*. He describes it to the following effect :—It is absurd to attempt the extraction of a hard lens through an incision which is absolutely too small, or which necessitates the use of spoons. The question then arises, how large must the corneal incision be to allow the passage of a hard cataract. If in an ordinary extraction we raise the flap formed by half the cornea, or if we try the experiment on a dead eye, we shall find that the aperture will permit the point of the little finger to be introduced into the eye, and that it is certainly far larger than is necessary for the exit of a body such as the lens. Why then make such an enormous wound when a less one will suffice, and is far less dangerous? The usual method was introduced in order that the lens might pass readily through the pupil; if, however, the iris is previously excised, the flap need not be larger than is absolutely required for the passage of the lens. A flap with a base four lines in diameter is quite sufficient; the difference between this and the ordinary one is far greater than would at first be imagined. Represent the cornea by a circle five lines in diameter, the base of the flap by a chord four lines long, and parallel to the latter draw through the centre a diameter; it will be found that the chord is not halfway between the vertex of the arc and the diameter. Owing to the thickness of the cornea, the chord should in practice be placed a little further; the base of the flap should pass midway between the centre and edge of the cornea. The superficial area of such a flap is not half that of the usual one.\*

These are not mere theoretical speculations. The operation has been performed in seven cases, the cataracts being in six large and hard. In five the lens escaped without difficulty; in the remaining two the spoon had to be employed, not because the aperture was too small, but because fluid vitreous appeared before any pressure was applied. One eye only out of the seven was lost.

The great advantage of this proceeding is the smallness of the flap, which keeps in as good apposition, and promises as favourable union, as the wound formed in the ordinary linear operation.

\* It must not be forgotten that the diameter of the cornea varies considerably, and that in many cases it does not exceed four lines; in the latter event, Rossander's incision would not differ from the ordinary one.—T. W.



E. L. HOLMES : CASE OF PYRAMIDAL CATARACT (*Amer. Journ. of Ophthalm.*, vol. ii. p. 14).—In January last a young man, nineteen years of age, and apparently of a scrofulous diathesis, consulted the author in reference to his left eye. He gave the following history :—At the age of three years he was attacked with inflammation of the eyes, which rendered the left eye almost useless, and permanently diminished, to a considerable extent, the vision of the right one. The latter, seven years later, was totally destroyed by inflammation. When he was eight years of age it was discovered that the left eye was affected with cataract. The lids were still somewhat granular, and the cornea vascular ; but they continued to improve in appearance, being subject, however, at intervals to slight increase of congestion. The patient was considered incurable, and at the age of fourteen was placed for three years in the Michigan Institution for the Education of the Blind. About two years since, the presence of a pyramid connecting the lens and cornea was observed ; how long it had existed was a matter of doubt to physicians who had, from time to time, examined the eye.

Dr. Holmes found on the lids evident signs of former inflammation, the conjunctiva being atrophied ; in the centre of the cornea there was a small opaque cicatrix, from which ran two vessels to the conjunctiva ; the other portions of the cornea were perfectly transparent. The lens was opaque. “The most remarkable feature of the case was the presence of a pyramid or cone of opaque substance, with its base attached to the lens and filling the pupil (when contracted by light), and its apex attached to the central cicatrix of the cornea. The base of this cone appeared to be a little less than a line in diameter. The distance from the pupil to the cornea might be possibly about two lines. The two superficial vessels mentioned above seemed to enter the anterior chamber through the cicatrix, and pass along the upper and outer side of the pyramid into the lens.” Under the use of atropine, the pupil fully and regularly dilated.

As the patient was totally blind, an operation seemed justifiable. Dr. Holmes describes his treatment and its results in the following words :—“I dilated the pupil widely with atropine, and introduced a needle through the sclerotic. After depressing the needle from above downwards between the lens and iris, I carried the point into the anterior chamber nearly to the cornea, and easily divided the cone as near its apex as possible. The needle had been passed between the lens and iris without the appearance of a drop of blood. At the moment of the division of the pyramid, however, a minute quantity



of blood followed the point of the needle ; which fact seems to prove that the superficial vessels of the cornea above mentioned really passed through the cornea into the substance of the pyramid and lens. As the needle was withdrawn, it was pressed through the capsule, when the anterior chamber was filled with a milky fluid and small fragments of the central portions of the cataract. After the operation, the pupil was kept dilated with atropine, and, fortunately, in a few days the congestion produced by the operation partially subsided, and the patient returned home.

“A couple of weeks since I had an opportunity of examining the eye. The two vessels of the cornea had nearly disappeared ; a very small portion of the apex of the pyramid could be seen projecting from the cornea into the anterior chamber. A small fragment of the cataract had fallen to the lower and outer portion of the anterior chamber. As the eye had entirely recovered from the effects of the operation, there seemed to be little reason to fear any harm from the presence of this portion of the capsule, especially as Dr. Bitye informed me it was gradually diminishing in size. The pupil was perfectly clear, and but for the presence of the central opacity of the cornea, the patient would undoubtedly see as well as any one could see after an operation for cataract. He was able to read the ordinary large letters on the title-pages of books. At a distance of fifty or sixty rods he could distinguish the masts and rigging of vessels lying in the harbour. With the assistance of a double convex lens, No. XX., he found distant objects much better defined, although no lens enabled him to read ordinary print. Undoubtedly an operation for artificial pupil, or for removing the pupil to one side by iridodesis, would greatly improve vision. As the patient was already so well pleased with the result of the operation, and could conduct himself without difficulty wherever he chose to go, it was thought best to leave the eye for a time in its present condition.

“I am disposed to believe that during the first attack of inflammation, a small central ulcer perforated the cornea and caused the escape of the aqueous humour. The iris and lens were consequently brought in contact with the cornea. As the ulcer healed, a firm union between the cornea and centre of the lens took place, which prevented further escape of the aqueous humour. As the anterior chamber became filled, the iris and lens were restored to their normal position. It can be readily understood, as the lens receded, how the capsule must naturally be put upon the stretch and drawn out into the form of a pyramid. The substance of the pyramid was, un-

doubtedly, to a great extent, composed of lymph, since, although the central portion of the capsule seemed drawn forward, the pyramid itself seemed to be some foreign body fastened upon the capsule."

J. HOMBERGER: ON A NEW MODE OF APPLYING ATROPINE (*Amer. Journ. of Ophthalm.*, i. 253; ii. 18).—In place of repeated applications of a solution, the author recommends its use in substance. Solid atropine readily adheres to the end of a silver probe, and a particle may be thus placed on the inner surface of the lower lid. According to the author, the alkaloid soon dissolves in the tears, and does not excite any irritation. Two applications a day appear to him to have as much effect as twenty instillations. In iritis he introduces "the fortieth part of a grain of atropine, in substance, into the lower conjunctival sac, which can be easily done by placing the salt, with a probe, on the everted lower lid. The patient is kept for half an hour under observation. Dryness in the throat is a usual effect of the application of the drug, which soon passes away; only if further symptoms (congestion to the head, paralysis of the m. protractor urinæ) should approach, it will be necessary to give the patient, internally, one-sixth to one-third of a grain, or a subcutaneous injection of one-eighth to one-fourth of a grain of the sulphate of morphia. Though I have but twice been obliged to resort to these means of counteraction, I consider it necessary to have them always on hand. It will be well to examine the patient some hours after the first application. If the pupil has enlarged considerably, one application daily will soon bring about dilatation, and no further treatment will be necessary, particularly in cases of a non-specific nature. If the enlargement is noticeable, but of little extent, or if there is no change, another application is made with the same care, and the case re-examined the following day. On the second day, those cases which do not present a marked increase of the size of the pupil are, according to the current rules, subjected to the action of mercury, to depletion, paracentesis of the anterior chamber, or iridectomy. Those, on the contrary, where the pupil has become larger, are treated with atropine exclusively, and only those where marked constitutional syphilis exists, submitted to a mild mercurial treatment."

DR. V. SCHMID: CASE OF POISONING BY ATROPINE (*Klin. Monatsbl. für Augenh.*, 1864, p. 158).—Most ophthalmic surgeons have, no doubt, met with cases in which there were symptoms of slight poisoning by this alkaloid, such symptoms, indeed, as have been described by von Græfe, in the second part of the ninth volume of

the *Archiv*, and many practitioners have certainly tried morphia, so much recommended by the same author as an antidote. The present case is worthy of record, both on account of the serious nature of the symptoms, and with reference to the remarkable efficacy of subcutaneous injections of morphia. On the morning of the 16th Jannary, the author was called to a man, who, an hour previously, had appeared in perfect health, but now spoke indistinctly and deliriously, although still capable of giving correct answers to questions. He found the patient in a state of fearful excitement, kneeling on his bed, with his head bent down and pressing it into the pillow, as if looking for something. The patient did not appear to recognize him; the tongue was swollen, and projected between the teeth; he incessantly moved it and his lips in a stammering manner, but without emitting a single intelligible word; the eyes were staring; the head was very hot, and the countenance livid; the superficial veins were extremely large, prominent, and serpentine; the pupils were dilated to their utmost degree, and unaffected by light; the pulse was 130, full, and very strong; there was a constant desire, but without the power, to make water; the region of the bladder was very sensitive; there were erections and erotic motions. It took five powerful individuals to place the patient on his back, and keep him in that position. Blood was drawn freely from the arm, and cold lotions were applied to the head, but without any result. Half an hour later some spoonfuls of inf. sennæ co. were administered, but were only in part swallowed after great exertions on the part of the patient. After another half-hour, during which the excitement continually increased, and the restlessness had become so great that it was no longer possible to hold him, a fifth of a grain of the acetate of morphia was injected into the cellular tissue of the right temple. In ten minutes he was perfectly quiet, the pulse became smaller, but not slower, and clonic spasms of the extremities appeared. The forearms were rapidly pronated or supinated, and at the same time adducted; in the lower extremities there were twitchings of the muscles. In three-quarters of an hour the pulse was so small that a little wine was administered; it was swallowed with greater ease than the senna mixture; the speech was now more distinct; the fæces and urine were involuntarily discharged. The action of the morphia lasted for about an hour; then the wakeful intervals became longer, the slightest noise awakened the patient and excited restlessness; the pulse again rose. As after about two hours the excitement, restlessness, and anxiety had again attained almost their former height, a



quarter of a grain of the acetate was injected into the left temple. The effect was very striking ; in seven minutes perfect calm had replaced the greatest excitement ; in a quarter of an hour the pulse became smaller, and for the first time slower (120). The patient was awakened only by pressure over the bladder, which did not, however, appear to be distended. During this period the breathing was normal ; the patient occasionally changed his position, opened his eyes, looked around, and again fell asleep ; the pulse was 110 an hour after the injection. After passing two hours quietly, the desire to make water seemed to awake him, for he at once demanded a chamber-pot, and passed without difficulty, but with two slight pauses, about ten ounces of apparently normal urine. He now recognized the people around, asked many questions in a clear voice—although he still sometimes rambled—was very thirsty, but as soon as the latter desire was relieved by ice, again slept. The glowing heat of the head and body had disappeared ; the pulse was, two hours after the injection, 100 and small ; the pupils continued in their previous dilated condition. He passed the evening and following night in sleep with a few interruptions, which were sufficiently explained by the desire to pass water, and by four fluid motions. The twitchings of the limbs continued through the night, and to a very slight degree through the next day. The pulse gradually sank till the next morning, when it was 55. His intellect then appeared restored, except that the memory was still somewhat deficient : the latter returned during the day. There then remained only extreme weakness, dryness of the throat, slight twitchings of the limbs, and the dilated pupils. It appears that he had taken at 7.45 in the morning from one-sixth to one-fourth of a grain of atropine in solution.

F. HORNER : CARCINOMA OF THE DURA MATER ; EXOPHTHALMUS ; CARCINOMA OF THE RECTI MUSCLES (*Klin. Monatsbl. für Augenh.*, 1864, p. 186).—J. A., 65 years old, a farmer, formerly healthy, suffered in the middle of August, 1863, from severe headache. On the 22nd of the same month Dr. Horner found the right motor oculi nerve paralysed ; the sphincter pupillæ was not implicated. The abducens and trochlearis were normal ; the vision was the same on both sides, and proportional to the age. The general condition was quite satisfactory. This state persisted till the 14th November, when the pains rapidly increased, the vision became impaired, and general weakness obliged the patient to remain in bed.

28th Nov.—Ptosis of the right lid ; the right eye projects directly forwards to the extent of 3". All the recti muscles are paralysed ;



the trochlearis continues to act ; the pupil is dilated and immovable ; the subconjunctival tissue is œdematous, and the conjunctival veins are very large and serpentine ; the sensibility of the cornea is diminished. The globe can be pressed back without much force or pain. Fingers can hardly be counted, even when just before the eye. Optic disc and adjacent retina slightly clouded ; papilla not swollen ; arteries very small, veins not dilated. Nothing is found on examination with the little finger passed under the upper lid. The patient complains of only the violent frontal pains which deprive him of sleep. A little bronchial catarrh with emphysema, and a hard spherical bronchocele are the only other noteworthy appearances.

On the 11th December the patient was presented at the clinic. Up to this date the only changes had been increase of the exophthalmus, and œdema of the subconjunctival cellular tissue. Dr. Horner in his clinical remarks pointed out that the paralysis of the recti and the œdema of the orbital cellular tissue accounted for the exophthalmus, and that all the symptoms could be referred to a tumour seated at the inner side of the sphenoidal fissure. From this time the prominence of the eyeball and the bronchocele increased ; two small swellings were found in the right submaxillary region. The strength of the patient steadily diminished, and the pulse became more frequent. From the 24th December the exophthalmus increased still more rapidly ; the globe was *quite* immovable, and could not be entirely covered by the lids. On the 30th the bronchocele and submaxillary swellings were larger ; two round tumours were perceived in the abdominal muscles. Death occurred on the 2nd of January. *Post-mortem* :—The right optic nerve is compressed by a tumour at its entrance into the foramen. This tumour is of a reddish colour, and firm ; its surface is irregular ; it is as large as a walnut, extending from the edge of the lesser wing to the edge of the clivus, and from the right side of the sella turcica to the bottom of the middle fossa of the cranium : it is somewhat movable, is restricted to the dura mater, the bones being unaffected ; it completely surrounds the nerves, and compresses the cavernous sinus. In the anterior part of the levator palpebræ there are two tumours, one as large as a cherry ; others are found in the internal, inferior, and external recti muscles. Carcinomatous tubercles are also found in the thyroid gland, in the sternomastoid, in the abdominal muscles, in the right pleura, in the pericardium, and in the peritoneum. Both supra-renal capsules are imbedded in colossal tumours, &c. The tumour of the dura mater was firm, and contained a large

quantity of stroma ; it was certainly primary ; all the others seemed to be of recent formation, and very rapid growth.

If we reconsider the history, it will be seen that the disease of the dura mater caused the headache and partial paralysis of the third nerve. The tumour enlarging, compressed the abducens, cavernous sinus, ophthalmic artery, and optic nerve. Exophthalmus was induced by the paralysis of the recti and the passive hyperæmia of the cellular tissue of the orbit. The absence of swelling of the optic disk and of congestion of the globe may be explained by the diminished flow of blood through the ophthalmic artery. The enormous increase of the protrusion and the immobility of the globe were owing to secondary disease of the ocular muscles during the last few weeks.

F. HORNER : COLOBOMA OF THE EYELID ; NUMEROUS DERMOID TUMOURS (*Klin. Monatsbl. für Augenh.*, 1864, p. 190).—B. Z., 28 years old, from Thurgau, is admitted on the 12th July. Left eye : There are two little whitish-red tumours on the outer and lower margin of the cornea ; the one has a diameter of about 4"', extends more over the sclera than the cornea, and is somewhat pediculated ; it is but little elastic ; the hairs are scanty. The other, two lines in diameter, is of a redder hue. On raising the upper lid, a third swelling is seen between the superior and external recti ; it is smooth, yellowish-red, soft, of the size of an almond without its shell, and covered with numerous delicate hairs. Right eye : There is a double coloboma in the inner half of the upper lid ; between the two fissures which extend the whole width of the tarsus, there is a small middle portion, formed by a little lump of skin with long white cilia. Corresponding to the outer coloboma, there is a leucoma of the inner and lower quadrant of the cornea, the result of purulent corneitis (when two years old) followed by perforation, prolapsus of the lower margin of the pupil, and loss of the lens. Between the superior and external recti there is a tumour exactly like the one on the left side in position and appearance, except that it is materially larger, being about an inch long and half an inch wide ; its convex surface is covered by numerous delicate hairs.

The co-existence of these tumours, the form of the coloboma palpebræ, and the history, allow no room for doubt about the congenital nature of the fissure of the lid.

DR. HÖRING : CONTUSION OF THE EYE, ACCOMPANIED BY INTRA- AND EXTRA-OCULAR HÆMORRHAGE (*Klin. Monatsbl. für Augenh.*, 1864, p. 192).—A lad of 16 was struck on the 18th October, 1863, by a piece of metal on the inner half of the right upper lid. As soon as

the bleeding was stopped, it was found that the right eye was quite blind. On the ninth day after the injury he was admitted into the hospital. The upper lid was swollen, and could be raised only as far as the lower edge of the cornea; on its inner half there was a cicatrix  $2\frac{1}{2}'''$  long. The conjunctiva, sclera, cornea, and iris were normal. The pupil contracted with that of the other eye, but was unaffected by light. The globe projected about  $1'''$ , and was at the same time lower than the healthy eye. It moved in every direction in a perfectly natural manner, but  $1\frac{1}{2}'''$  lower than the other eyeball. That this depression could not be ascribed to paralysis of the superior rectus or inferior oblique was proved by the eye moving upwards, upwards-inwards, and upwards-outwards to the extreme limit. As there was no other trace of paralysis of the third nerve, the ptosis was considered to be purely peripheral, induced by the immediate mechanical effect of the injury. Vision was entirely lost, even the strongest lamp and sunlight not being perceived. There was a somewhat oval extravasation of blood,  $2\frac{1}{2}$  to 3 times the size of the disk, at the outer side of the optic disk; it appeared to have been originally under and to have afterwards permeated the retina. The rest of the fundus was normal. The treatment consisted of repeated applications of Heurteloup's leech, the compressing bandage at night, laxatives, and mercurial inunctions around the injured eye. Fourteen days after the admission of the patient there was distinct quantitative perception of light; iodide of potassium and induction electricity were now locally applied, and the vision so rapidly improved, that three weeks later he could recognize Jäger 16 at  $5''$  and Sn. cc at  $10'$ . In this time the extravasation had diminished to about the size of the papilla; the globe had returned to its natural position, and there was no diplopia. At a later period the vision was reported to have become perfectly normal.

Dr. Höring thinks there must have been in this case concussion of the retina, for the entire loss of vision could not be explained by the ophthalmoscopic appearances. Such examples of transitory paralysis of the retina are, according to him, by no means rare.

DR. HÖRING: CONTUSION OF THE EYEBALL; PARALYSIS OF THE OCULAR MUSCLES (*Klin. Monatsbl. für Augenh.*, 1864, p. 195).—On the 3rd February, J. Wegst received a blow on the right side of the face; in a couple of hours the eyelids were much swollen; leeches and cold fomentations were applied, and in twenty-four hours more he could again separate the lids, but then discovered that he was affected with most annoying diplopia. On the 11th the patient



applied to the author ;—lids and eye normal, except that blood was effused under the conjunctiva ; vision good when the other eye is closed. The globe is about a line more forward and about the same distance lower than the left eye. It can be moved to only a limited extent. After repeated examinations, it is found that it can be rotated in each direction only  $\frac{3}{4}$ ths of a line ; even in the vision of distant objects (the eyes are emmetropic) there is constant diplopia, owing to the depression of the globe. The range of accommodation of both eyes, tested separately, is equal and normal. The treatment consisted at first of repeated local blood-letting and a compressing bandage ; the subconjunctival ecchymosis disappeared in ten days, and the mobility somewhat increased in the direction inwards. As, however, the latter made no distinct advance in the following five or six days, the induction current was applied to the closed eyelids by means of a large sponge. After ten applications the mobility was normal, with the exception of a slight deficiency in the abducens. The treatment was then discontinued, and in four weeks the abducens also had perfectly recovered.

C. BADER : ON THE TREATMENT OF GRANULAR CONJUNCTIVITIS BY INOCULATION WITH PUS (*Guy's Hospital Reports*, 3rd Series, x. 61).—We do not find in this paper, apparently the first of a series, any fresh information. The author asserts, that in cases with more or less large superficial ulcerations of the cornea, superadded to pannus and granular ophthalmia, the ulcers rapidly heal after inoculation. He thinks that where the upper half of the cornea is opaque, and the lower half nearly or quite transparent, the latter is likely to become more rapidly vascular if the eyelids are kept closed. He appends a form for taking notes of these cases, for which we must refer to the original.

E. JUNGE : ON THE MECHANICAL CENTRE OF THE EYE (*Russian Journal of Military Medicine*, vol. lxxxii., and in abstract in the *St. Petersb. Med. Zeitschr.*, ii. 93).

DR. BAHR : THE OPERATION FOR ENTROPIUM (*St. Petersb. Med. Zeitschr.*, ii. 142).—Anton Hesser has published in the *Oesterr. Zeitung f. prakt. Heilk.* for 1860, No. 38, a case from Jäger's clinic at Vienna, in which, twenty years previously, so large a piece of skin had been excised that the eyelids could not be perfectly closed, and yet the entropium, after a time, had recurred. A little consideration, indeed, shows that the everting power, or rather the resistance to inversion, induced by most of the operations proposed is but slight, for lagophthalmos, and not ectropium, is produced, when they are



carried to excess. The author admits that in extreme cases excision of the cilia is the only sufficient means; in slighter cases he thinks the following operation may be performed with success.

In a case of transplantation of the cilia after the method of Jäsche, Dr. Bahr noticed, after forming the marginal bridge and excising the oval piece of skin, that when he approximated the edges of the wound the effect was not quite sufficient. Instead of removing a larger piece of integument, he decided on causing the wound to heal by granulations. With this view he cauterized the wound tolerably freely with nitrate of silver, and repeated the application on several successive days: the result was quite satisfactory. He has since somewhat modified this proceeding. At the point where he wishes to change the direction of the cilia, he splits the margin of the lid and excises an oval piece of skin, like Jäsche, except that he frequently does not divide the whole length of the margin of the lid, merely incising where the eyelashes are especially inverted (generally near the inner angle), and that he does not fissure the lid so deeply as to entirely liberate the ciliary margin. He then draws the latter part by one or two loops of thread towards the edge of the external wound, at the same time everting the cilia, so that there is left between the two layers of the eyelid a space which has to heal by granulations. By cauterizing the external wound, he acts upon the tarsal cartilage, with the belief that more is to be expected from cicatricial contraction than from carving that tissue with the knife.

Besides the influence of the cicatrix in straightening the cartilage, it is worthy of notice that the skin thus becomes united to the deeper parts by a firmish scar, and that this condition prevents the dragging down and relaxation of the cutis, which must occur in the production of entropium. Should the direction of the cilia be at some one spot unsatisfactory, much may be effected by a little secondary operation. A small strip of skin between the cicatrix and ciliary margin, parallel to both, is excised opposite the point inverted, and the edge of the lid is when necessary partially fissured. The previous operation furnishes in the cicatrix a fixed point, towards which the cilia may then be drawn.

DR. WALDHAUER: ON TRICHIASIS (*St. Petersb. Med. Zeitschr.*, ii. 301).—He has operated in some 200 cases after the method of Jäsche—Arlt, and has been well satisfied with the results. Since he has simply applied a compressing bandage of charpie immediately after the operation, instead of cold fomentations, he has not met with mortification of the whole bridge. The bandage should be removed

in 48 hours ; the surgeon, after carefully moistening the charpie, should gently raise it from side to side, and not from above downwards.

Dr. FRÖBELIUS : HEREDITARY CATARACT (*St. Petersb. Med. Zeitschr.*, ii. 281).—Many interesting examples of this form of cataract have been already published by Beer, Lusardi, Arlt, &c. The latter author is of opinion that hereditary influence must be admitted when cataract is observed in the ascending and descending line, provided it is developed in both eyes in the same form—according to him, soft lenticular cataract—and at the same age—in the first half, indeed, of life, and not in old age.

Fr. was twice married. His first wife had healthy eyes. From her proceeded two children, both of whom, with their children, had normal vision. Cataract formed in his second wife at the age of 60. An operation was successfully performed, and she continued to see till her death at 80. She had twelve children, of whom four suffered during old age from cataract ; the remaining eight had children with healthy eyes. Out of the descendants of the four with cataract, several suffered from opacity of the lens within the first half of life.

1. Amalie Fr. married a certain Sch. His parents and ten brothers or sisters were unaffected by any eye disease. She was operated by Dr. Schöler, and died a year later at the age of 70. Out of five children, one a son named Reinhold, was blind at an early period. The operation was performed by Dr. Lerche, and again repeated at Berlin unsuccessfully. Reinhold had himself a son, who became cataractous while a child, was operated with success, and is now living in Berlin. One of Reinhold's sisters had a daughter, who, when 10 years old, became blind from cataract : the operation was successful. Thus from Amalie Fr. proceeded three cases of cataract,—one son and two grandchildren.

2. Louise Fr. married Str., whose family had healthy eyes. Cataract formed during old age, and she died before any operation had been performed. She had eight children ; in two of these the lens became opaque at the age of 30 : one has been operated at München.

3. Natalie Fr. is said to have had weak sight ; she married B., and had four children : cataract formed in one of these, a son.

4. Georg Fr. suffered from senile cataract ; reclamation was successfully performed on the right eye. He married Wilhelmine Pr., and had ten children, of whom three showed signs of cataract

during youth. The author performed discision in two of them about the age of 20. In both the lens was soft ; in the third the cataract is not yet mature.

No grandchild has suffered from congenital cataract, yet the lens has become opaque at an earlier period than in the children, who indeed did not suffer from this affection till old age. Dr. Fröbelius thinks that hereditary influence must be conceded in these cases owing to their number (12), although the cataract was not always of the same kind, and did not always form at the same age.

DR. FRÖBELIUS : ON GLAUCOMA AND ITS TREATMENT (*St. Petersb. Med. Zeitschr.*, iii. 155).—As an example of the insidious manner in which this morbid process may occur, he adduces a case that came under his treatment for the first time in 1851. A man, aged 51, then consulted him on account of an obscuration of vision of the left eye, which had suddenly occurred twenty-four hours previously. The iris and pupil were of a greyish colour ; the former was slothful, the latter twice the size of that on the right side ; the cornea was perfectly clear ; there were no inflammatory symptoms. This patient had suffered now and again for years from iritis of both eyes, although there was no reason to suspect any existing or previous syphilis. After treatment with purgatives, both the obscuration and the other symptoms entirely disappeared in the course of six days. He continued perfectly well for two years, was then suddenly attacked with irido-choroiditis and inflammation of the inner surface of the cornea. The sight became normal in six weeks under strict antiphlogistic treatment and the use of mydriatics ; neither punctiform exudations in the inner corneal layers nor adhesions between the iris and capsule were left. Some months later, in the autumn of 1853, there again occurred cloudiness of the aqueous humour without any symptom of inflammation ; it likewise perfectly disappeared in a few days. Irido-choroiditis again attacked the left eye in the following year (1854), ending this time in complete blindness. The author did not see the patient till after the termination of the attack ; the symptoms were those of well-marked glaucoma : the cornea was clear, the iris of a dirty hue, the pupil much dilated and of a greyish-green colour ; there were many dilated ciliary vessels around the cornea. Finally, in the year 1858, the diagnosis was confirmed by an acute glaucomatous attack. This interesting example shows how long the premonitory stage may continue, and the increased frequency of the attacks at a later period. It also proves that the group of symptoms, by which we may diagnose the commencement of glaucoma, is very



complex, and that the difficulty is considerably increased by the cloudiness of the media preventing ophthalmoscopic examination. The surgeon should make it his rule in such cases to carefully examine the condition of the fundus during the intervals, so as to render his diagnosis as certain as possible. Moreover, we should not too hastily believe in the effects of iridectomy, for in the present patient the disease remained in abeyance for two years without operation; on the other hand, if the symptoms of inflammation repeatedly recur, iridectomy must be performed at an early period, to prevent ulterior blindness. Cloudiness of the media is, according to the author, one of the first symptoms of the glaucomatous process; it may precede the actual disease by many years, and be unattended by any symptom of increased pressure, by pain, or by the least trace of excavation of the optic disk. He thinks the conception of glaucoma should extend beyond the limits of the type described by von Graefe in the fourth volume, part 2, of the *Archiv für Ophthalmologie*.\*

Glaucoma often commences in an entirely different manner in the two eyes of one and the same individual. For example, in a man aged 52 the right eye was completely blinded by an acute glaucomatous attack; after the lapse of two months there were still all the symptoms of moderate inflammation, more especially troublesome ciliary pains; whilst in respect to his left eye, he has had for two years obscurations of the sight, principally towards midday, iridescent vision, without the least pain or other symptom of inflammation. The varying appearance of the left eye at different hours of the day was very striking in this case. At twelve o'clock the patient presented a dirty iris, a dilated and fixed pupil, an anæsthetic cornea, and was unable to read No. 20 Jäger; at nine in the morning, the iris was blue and perfectly mobile, the pupil black, and he could read small print with a moderately powerful convex lens. Owing to the cloudiness at twelve o'clock, nothing could be distinguished with the ophthalmoscope, whilst early in the morning the optic disk could be distinctly seen. The operation was performed on both eyes; the vision of the left was completely restored.

The author now refers to another class of cases, which simulate iritis, and in which the diagnosis is very often determined too late, although by comparing the objective with the subjective symptoms the commencing glaucomatous process may be distinguished from simple iritis. Whilst in the latter the vision becomes much impaired

\* Translated in the Sydenham Society Monographs, 1859, p. 359.



as exudations form on the capsule, in the pupil, and as adhesions occur between the iris and capsule, yet we find that there is no contraction of the visual field, and that the vision is still something more than mere quantitative sensation,—proportional, indeed, to the amount of exudation and allowing the perception of even large print. On the other hand, should there be decided contraction of the inner side of the visual field or only quantitative perception, whilst the pupil is not closed and there is only a delicate grey deposit on the capsule, we shall be safe in diagnosing deep-seated disease with anæsthesia of the retina, and in performing iridectomy at an early period. The operation is by no means so successful in such cases as in typical glaucoma; it must be repeated twice or even thrice to obtain the desired effect.

J. HUTCHINSON: CLINICAL DATA RESPECTING CEREBRAL AMAUROSIS, MORE ESPECIALLY WITH REFERENCE TO THAT FORM SUPPOSED TO BE CONNECTED WITH THE USE OF TOBACCO (*Lond. Hosp. Rep.*, i. 33).—After briefly describing some of the conditions of the fundus found in amaurosis, Mr. Hutchinson writes:—"In but few cases of the classes just mentioned does the disease progress to absolute non-perception of light. There is, however, a form of amaurosis, perhaps as common in its occurrence as all the others put together, in which the tendency is usually steadily downwards, and in a majority of cases to absolute blindness. It is indeed amaurosis *par excellence*. Without unduly anticipating what I shall have to say respecting it in a further part of the paper, the following may be briefly stated to be its usual symptoms. A person, most commonly an adult, and usually a man, begins rather suddenly to notice that he cannot see well, 'there is a fog over everything'—he has no muscæ, no flashes of light, no pain in the eyeballs; frequently, he has more or less of headache, but often not much, and very often there is more or less of giddiness. A symptom, I believe, not hitherto noticed, is, according to my experience, one of those most frequently present; viz., excessive tendency to sleep. One eye is usually attacked a month or two before the other; the left is mostly the first to fail. In a short time, however, both eyes are affected, and within from four months to a year from the date of onset, the patient is so far blind that he is unable to read. From eighteen months to two years usually suffice to complete the entire loss of all sight. Through the whole course or the attack the patient has usually continued in excellent health, after the first few months the liability to headache and the tendency to sleep have passed away, and all his bodily functions (excepting those

of sight) have appeared in perfect order. From beginning to end, he has had no ocular symptoms excepting progressive abolition of the special sense. In this form of amaurosis the ophthalmoscope reveals to us remarkable and very constant conditions. In the early stage the optic disk is usually too red, and the whole of the choroid full of blood, and presenting the appearance of a pile of red velvet. There are no ecchymoses, nor any effusions of lymph. In a little time the congestion of the optic disk diminishes,—instead of being too red it is too white. At this stage, the arteria centralis retinae is much lessened in calibre, but its accompanying vein is of normal or even increased size. From this stage onwards, the optic disk gets whiter and whiter until all traces of arteries, excepting the largest trunks, are lost ; sometimes, but very rarely, even the largest cease to be visible. At this latest stage the veins are usually very small, but I have never known them absent. Whether the stage of preliminary congestion is always present or not, I do not know, since a large majority of cases come under notice long after it is passed. With regard to the method by which the abolition of function is brought about, I entertain a strong opinion that it is not owing to any altered state of the eye itself. Neither the primary congestion nor the subsequent anæmia of the retina suffice to explain it. I have seen many cases in which the patient could not see, although the arteria centralis was still of fair size. It seems to me probable that these alterations in blood-supply are secondary to some deeper-seated change, and that the real location of the changes causing failure of the perception of light is in the cerebral origins of the optic nerves, *i. e.*, in the tubercula quadrigemina. The form of amaurosis to which I now allude is always symmetrical. Its most prominent symptoms, however—white atrophy of the optic disk and shrinking of the arteries which supply the retina,—are now and then observed in only one eye. These unsymmetrical cases, however, usually present other symptoms, which clearly demonstrate that they are of a wholly different nature. They probably depend upon local disease in the optic nerve-trunk of the affected eye.”

The analysis of 47 cases of symmetrical cerebral amaurosis in adults\* gives the following results :—

Somnolence noted as a premonitory or accompanying symptom...	...	...	...	...	15 cases.
Liability to headaches	ditto		ditto		11 „

\* In a certain number of these cases the diagnosis appears to be dubious.

Liability to giddiness	ditto	ditto	6 cases.
Attacks of vomiting	ditto	ditto	2 „
Injury to the head at some period prior to the			
amaurosis	...	...	5 „
Intemperance a possible cause	...	...	10 „
Anxiety	ditto	...	4 „
Senile atrophy	...	...	1 „
Had had syphilis	...	...	2 „
Had smoked	...	...	23 „
Had never smoked	...	...	2 „

*Trades.*—Smiths, 3 ; dentist, 1 ; coal-whipper, 1 ; farm-labourers, 2 ; coachmen, 2 ; brushmaker, 1 ; van-driver, 1 ; cigar-dealer, 1 ; baker, 1 ; merchant, 1 ; hairdresser, 1 ; butcher, 1 ; porter, 1 ; carpenters, 3 ; publican, 1 ; musician, 1 ; student, 1 ; sailors, 3 ; shoemakers, 2 ; railway labourer, 1 ; gunmaker, 1 ; currier, 1 ; hatter, 1 ; clerk, 1.

Cases in which the disease progressed to blindness :—Men, 13 ; women, 2.

Cases in which the disease appeared to be arrested :—Men, 5.

Cases in which the disease was still progressing at last note :—Men, 22 ; women, 5.

Twelve cases of symmetrical cerebral amaurosis in young persons, and seven of non-symmetrical cerebral amaurosis at various ages are appended.

As from this collection of cases it appears that there are at least twelve cases of the first form in the male for one in the female, the author accordingly discusses the special influences which are likely to come into play in reference to the one sex, and from which the other is exempt, either wholly or relatively. In the great majority of cases there is no reason to attribute any influence to occupation, intemperance in the use of stimulants, sexual excesses or masturbation, syphilis, or injuries to the head. “Lastly, then, we have to consider the chief question to which this paper is devoted, that, namely, as to the possible *influence of tobacco*. . . . From this survey we have arrived at the facts :—1st, that unsymmetrical amaurosis (no doubt in connection with disease of the optic nerve, embolism, &c.) is equally frequent in the two sexes ; 2nd, that of the symmetrical cases a far larger proportion occur in men than in women ; 3rd, that in women we not unfrequently find derangement of menstrual functions, acting apparently as the cause of the amaurosis ; 4th, that



in a few cases in men we obtain the history of sexual excesses and of diminution of sexual vigour, and also find varicocele coexisting with the amaurosis; 5th, that there is no reason for assigning any special male occupation as a probable cause, nor any for thinking that syphilis or blows on the head often stand in that relation; 6th, that in a very considerable number of cases no probable hypothesis can be given as to the determining cause of the failure of sight, and that almost all these unexplained cases (symmetrical and well-marked in all their stages) occur in men who have been accustomed to smoke." Mr. Hutchinson thinks *that it is most desirable to insist upon abstinence from tobacco*, and that since he has adopted this rule, his results have been better than formerly.

J. W. B. DOVE: PROTRUSION OF THE LEFT EYE, with temporary loss of sight and neuralgia, chiefly in the course of certain branches of the first division of the fifth nerve.—DIAGNOSIS OF A SYPHILITIC NODE WITHIN THE ORBIT, confirmed by rapid recovery under specific treatment (*Lond. Hosp. Rep.*, i. 195).

E. FOLLIN: ON THE PRESENT TREATMENT OF DISEASES OF THE LACRYMAL PASSAGES (*Arch. Gén. de Méd.*, 1864, ii. 340).—The author has for more than ten years employed chloride of zinc for the purpose of obliterating the lacrymal sac; he has never seen any accident result. After incising the anterior wall of the sac, he fills it with charpie, so as to well distend it. Next day the charpie is removed, care being taken to moisten it well with tepid water. When this dressing has been repeated for two or three days, and the cavity is fully dilated, delicate silver probes are introduced along the lacrymal canals, so as to leave no doubt of the position of their orifices in the sac. A little ball of charpie, coated with a thin paste of the chloride, is then introduced and retained for two hours; attention must be paid that it comes into contact with the inner orifices of the lacrymal canals, and indeed with every part of the inner surface of the lacrymal sac. A little ball of charpie, with cerate, is the only dressing afterwards required. The slough separates in a few days, and cicatrization generally soon follows. The author has always succeeded in obliterating the sac in this way.

F. A. P. BARNARD: LECTURES ON THE UNDULATORY THEORY OF LIGHT (*Annual Report of the Smithsonian Institution, &c., for 1862*, Washington, 1863, p. 107).—The author gives in an Introduction an outline of optical discovery and of the theories of light, and then passes to vibration, undulation, reflection and refraction, interference, diffraction, colours of thin plates, polarization by reflection and by

refraction, circular and elliptical polarization by reflection, rotary polarization, chromatics of polarized light, double refraction, wave-surface.

A. NAGEL: ON A PECULIAR AFFECTION OF THE RETINA (*Reprint from the Centralblatt f. d. Med. Wissensch.*, 1864, No. 45).—The author found the following condition of both eyes in a young man of about 20:—The whole of the retinal arteries, from their entrance at the disk up to their minutest branches, appeared as *white strings*, which were sometimes glittering and clearly defined, sometimes of a duller hue and with somewhat indistinct margins. A fine bright-red line was seen in the middle of most of the larger strings. Here and there this red line became somewhat larger, and where the white hue of the stripe was but little intense, the double contour of the artery could be traced, though indistinctly, as if through a haze. A very few small arterial twigs appeared normal, except that their red colour was somewhat dulled. The venous system also participated in the disease; the larger trunks were somewhat diminished and irregular in size, and a few of their peripheral branches were changed into white strings. The degeneration generally stopped at the junction of branches, so that the vein appeared formed by two twigs, one of which was red, the other, with all its ramifications, white. Some parts of the retina were a little clouded, untransparent; here and there a kind of network was formed by little whitish stripes, which were supposed to be small vessels with thickened walls. There were numerous punctated, and a few larger ecchymoses, partially collected into groups. White, translucent, prominent masses, concealed the entrance of the central vessels on the optic disk. A great quantity of closely-packed red points and streaks in this situation proved to be formed by vessels whose origin and growth were watched for a long time. On slight pressure of the globe, every trace of red vessels disappeared from the white glittering deposit.

Contrary to all expectation, central vision was nearly normal. The visual field, however, was defective; at first the defect was island-like near the point of fixation; at a later period, by gradual increase, it formed an irregular zone, which inclosed a tolerably circular, slightly excentrical field of vision, and was itself surrounded by a sentient portion.

It was learnt from the history that the disease had progressed very gradually, and that at different times there had been brief obscurations of one or both eyes. The author thinks that such sudden, temporary obscurations—not unjustly denominated *epilepsia retinæ*—depend on momentary *anæmia* of the retina.

The general health is unaffected, and the heart healthy; there is some reason to suspect a commencing central lesion, though, after watching the case for many months, the author has failed to discover any corroborative symptoms.

This, although a solitary case, differs so essentially from the forms of retinitis hitherto described, and is at the same time so well characterized, that the author has no hesitation in adducing it as an example of a special form of retinal disease. He thinks it must be considered to be a chronic, though slowly progressive inflammation, which commences in the walls of the vessels as a proliferation or induration of the connective tissue, spreads to the same tissue in the parenchyma of the retina, is transmitted from the arteries by means of the capillaries to the veins, and is possibly connected with similar changes in the central organs and their vessels. The latter suspicion is supported by the occurrence of the disease in both eyes.

Wedl, Billroth, Rindfleisch, and Leidesdorf have shown that many diseases of the brain and spinal cord arise from the walls of the vessels. The author compares his case with one described by Rindfleisch, in which there were many centres of grey degeneration in the brain and anterior portions of the spinal cord, and in which the degeneration had evidently commenced in a proliferation of the cells and nuclei of the external coat of the vessels. The author thinks that the process was similar in his case, and that he might justly denominate the affection *grey degeneration of the retina*.

H. D. NOYES : ON STRABISMUS (*Amer. Med. Times*, 1864, i. 244, 254, 267).—The author describes a slight modification of Mr. Critchett's operation :—"It consists in first dividing the antagonist, and then separating the paralysed muscle at its insertion, dissecting it up freely, passing a thread transversely through it; then, having a needle at each end, carry the ends of the thread under the conjunctiva, around the margin of the cornea, and come out of the conjunctiva at the opposite side of the cornea; then pass one needle back again, and run it through the conjunctiva at the wound, and tie the thread firmly. The conjunctiva is drawn up over the cornea like the mouth of a purse, and the muscle is pulled forwards. The sclerotic needs to be laid bare in front of the tendon of the muscle, up to the edge of the cornea, and the muscle must be loosened from its attachments to the fibrous tissue. It grows fast in its new location, in 24 to 48 hours. At the time of operation the antagonist muscle is also separated. The thread may be left *in situ* for that time without serious reaction. Pretty smart inflammation, perhaps



with chemosis, does not destroy the good effect of the operation. Its beneficial results are sufficient to warrant its performance in such cases as have reached the period when medical treatment and the *vis medicatrix naturæ* have nothing more to offer. This will be in, say, twelve months after the original paralysis."

Dr. Noyes, in performing the thread operation for secondary strabismus, "once passed the thread leading from the tendon of the external (rectus) through the skin of the nose, and tied it."



## REVIEWS.

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*On the Anomalies of Accommodation and Refraction of the Eye, with a Preliminary Essay on Physiological Dioptrics.* By F. C. DONDERS, M.D., &c. Translated from the Author's manuscript by WILLIAM DANIEL MOORE, M.D., &c. The New Sydenham Society, Vol. XXII., London, 1864 (pp. 635).

IT may be presumed that most British oculists have been long acquainted with the name of Professor Donders, and with the general character of his labours in a field of research which is rendered peculiarly interesting, and, perhaps, peculiarly difficult, by the complication of physical, physiological, and psychical problems which it presents. The fact, however, that his communications have hitherto appeared in foreign languages, and, to some extent, in a fragmentary way in continental periodicals, has made the results of his investigations less generally accessible, and the full amount of his merits less generally recognized in this country than they deserve to be.

It has been too much the practice, in certain quarters, to denounce the members of the new Continental School of Ophthalmology as a race of presumptuous charlatans, seeking notoriety by introducing novelties into the practice, and pedantry into the theory of ophthalmic medicine and surgery—operating without necessity, and resolving,

—by sines and tangents, straight,  
If bread or butter wanted weight.

Their English disciples, too, have been denounced as conceited youths, puffed up by foreign travel, destitute of practical experience, and ignorant of the stage at which ophthalmology had arrived before the rise of the new school.

Whether some of these last may not have expressed their admiration of their foreign teachers in somewhat exaggerated terms;





